Complete Summary

GUIDELINE TITLE

American Academy of Orthopaedic Surgeons (AAOS) clinical guideline on sub-acute (non-traumatic) hip pain in adults (>50 years of age).

BIBLIOGRAPHIC SOURCE(S)

American Academy of Orthopaedic Surgeons (AAOS). AAOS clinical guideline on sub-acute (non-traumatic) hip pain in adults (>50 years of age). Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2002. 13 p. [35 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Sub-acute hip pain, not arising from trauma, infection, or tumor, including that due to:

- Groin/muscle strain
- Primary and secondary osteoarthritis
- Inflammatory arthritis
- Avascular necrosis
- Trochanteric bursitis
- Meralgia paresthetica

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Emergency Medicine
Family Practice
Internal Medicine
Neurological Surgery
Neurology
Orthopedic Surgery
Physical Medicine and Rehabilitation
Rheumatology
Sports Medicine

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To improve patient care by outlining the appropriate information gathering and decision-making processes involved in managing and diagnosing sub-acute hip pain in adults over 50 years of age
- To guide qualified physicians through a series of diagnostic and treatment decisions in an effort to improve the quality and efficiency of care

TARGET POPULATION

Adults over the age of 50 with sub-acute hip pain not arising from trauma, infection, or tumor

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. History, including:
    - Age
    - Sex
    - Location of pain (buttock, trochanter, groin, thigh)
    - Mode of onset of pain (acute, sub-acute, chronic)
    - Duration of pain
    - Systemic symptoms
    - Other joints with synovitis
    - Previous hip surgery
    - Previous malignancy
    - Severe pain, pain at rest or at night
    - Activity-related pain
    - Other medical conditions
2. Physical examination, including:
    - Gait - antalgic, Trendelenburg
    - Hip - range of motion (ROM), resisted hip flexion, tenderness (trochanter and groin), piriformis fossa tender (skin and strength)
    - Neurologic

- Vascular
- Straight leg raise

3. Laboratory examination (including erythrocyte sedimentation rate [ESR], complete blood count [CBC], and rheumatoid factor [RF])
4. Imaging (x-ray)

Management

1. Nonsteroidal anti-inflammatory drugs (NSAIDs) and analgesics, if tolerated
2. Activity modification, including rest
3. Physical therapy, including stretching, strengthening, heat, ultrasound, and iontophoresis
4. Weight loss
5. Bicycling and other gentle exercise
6. Use of cane or crutches
7. Referral for rheumatological work-up
8. Referral to a musculoskeletal specialist
9. Cortisone injection
10. Clothing modification to eliminate external pressure (no tight clothes, belts, or waistbands)
11. Local injection of steroid or local anesthetic
12. Topical lidocaine patch
13. Assessment of treatment response and reassessment, if necessary

MAJOR OUTCOMES CONSIDERED

- Accuracy of diagnostic assessments
- Symptom improvement and/or resolution
- Symptom severity

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Evaluation of Existing Guidelines: A search of MEDLINE, the National Guideline Clearinghouse, and the American Medical Association's (AMA's) Clinical Practice Guidelines Directory (1999) was performed. No relevant guidelines were located.

Literature Review: A search of MEDLINE was performed in order to update the literature used to develop the original guideline. English language journals were searched from 1988 to 2001, and human studies of adults over 19 years of age were included.

NUMBER OF SOURCE DOCUMENTS

Of the abstracts generated by the search, 35 articles were graded by the work group and included in the bibliography.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Type I. Meta-analysis of multiple, well-designed controlled studies; or high power randomized, controlled clinical trial

Type II. Well-designed experimental study; or low-power randomized, controlled clinical trial

Type III. Well-designed, nonexperimental studies, such as nonrandomized, controlled single-group, pre-post, cohort, time, or matched case-control series

Type IV. Well-designed, nonexperimental studies, such as comparative and correlational descriptive and case studies

Type V. Case reports and clinical examples

Consensus/opinion (as it is used in bibliography of the original guideline): Articles representing expert consensus and not meeting the rigid I-V measurement are noted to represent consensus/opinion.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Consensus Development: The work group participated in a series of conference calls and meetings in which information was extracted and incorporated into the original algorithm. Information from the literature was supplemented by the consensus opinion of the work group, when necessary. Multiple iterations of the guideline were then completed and reviewed by work group members. Modifications (when supported by references from the literature) were then incorporated by the work group chairman.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Strength of Recommendation

The strength of the guideline recommendations for or against an intervention was graded as follows:

A. Type I evidence or consistent findings from multiple studies of types II, III, or IV
B. Types II, III, or IV evidence and findings are generally consistent
C. Types II, III, or IV evidence, but findings are inconsistent
D. Little or no systematic empirical evidence

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The revised guideline was reviewed and approved by various groups within the American Academy of Orthopaedic Surgeons, including the Evidence-Based Practice Committee, Council on Research and Scientific Affairs, and Board of Directors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the ratings of the strength of recommendation (A-D) and the levels of evidence (Type I-Type V) are provided at the end of the "Major Recommendations" field.

Differential Diagnosis

Groin/Muscle Strain

Definition of the Problem and Diagnosis

Sub-acute groin or muscle strain encompasses a variety of soft tissue causes of hip pain. These include strains of the iliopsoas and rectus femoris muscles and the internal or external rotators, adductors, and abductors of the hip; hip pointers (muscle origin avulsions or tears); and hip capsule strains. These can be differentiated by location of symptoms based on anatomic locations and functions of the muscle involved. Pain posteriorly with rotational stretch or resisted action of the external rotators may be piriformis muscle strain. Pain anteriorly increased with hip extension and then knee flexion may be a rectus femoris injury. Groin pain with internal or external rotation may represent a capsular inflammation.

Groin pain with resisted straight leg raising or resisted hip flexion may be an iliopsoas strain or tendonitis. Consideration should be given to a diagnosis of "sportsman's hernia."

Recommendations

For those patients presenting to the first contact physician with hip pain, those with incapacitating instability, deformity, or pain should be referred immediately to a musculoskeletal specialist. For the remainder, initial treatment of all these conditions involves rest, nonsteroidal anti-inflammatory drugs (NSAIDs), and stretching (physical therapy) with a graduated return to exercise or sport ("B" recommendation). Expected response can be slow depending on severity of injury and compliance with treatment regimen. A careful stretching and strengthening program before return to exercise or sport activity is important to avoid reinjury. Perpetuation of symptoms should result in referral to a musculoskeletal specialist.

Alternative Approaches

None recommended.

Primary and Secondary Osteoarthritis

Definition of the Problem and Diagnosis

Osteoarthritis (OA) of the hip can present initially with sub-acute pain in the groin (or deep in the buttock or laterally around the hip). It should be exacerbated by activity. Typically it is present at rest only in more advanced cases. Primary OA is basically wear and tear or degenerative arthritis. Secondary OA is degenerative arthritis caused by accelerated wear and tear due to some underlying condition. Both primary and secondary OA should have similar symptoms and treatments, although radiographs should reveal the underlying condition with secondary arthritis. Examination should reveal pain with extremes of range of motion, especially internal rotation, and loss of motion is seen with increasing severity of disease.

Recommendations

For those patients presenting to the first contact physician with hip pain, those with incapacitating instability, deformity, or pain should be referred immediately to a musculoskeletal specialist. For the remainder, initial treatment consists of heat, weight loss, low-impact activity, NSAIDs, cane, and home exercise instruction by a physical therapist ("B" Recommendation). Acute flare of hip arthritis may require a period of rest to help alleviate symptoms prior to the institution of low-impact activity. Maintenance of aerobic activity has been recommended ("D" Recommendation). Perpetuation of symptoms should result in referral to a musculoskeletal specialist.

Clinical Outcomes

Symptoms should abate with treatment. Increased severity of disease may be a reason for lack of response to therapy.

Alternative Approaches

Over-the-counter pain medication can be used.

Inflammatory Arthritis

Definition of the Problem and Diagnosis

Inflammatory arthritis of the hip may present as sub-acute hip pain. History of other joint symptoms, pain at rest at an earlier stage of degeneration as seen on radiographs, and pain with hip rotation may help in the diagnosis. Confirmation with positive laboratory studies (complete blood count [CBC], erythrocyte sedimentation rate [ESR], antinuclear antibody test [ANA], rheumatoid factor [RF]) is indicated.

Examination will reveal pain with hip joint motion and loss of motion in more advanced cases or with significant synovitis. FABER (flexion, abduction, and external rotation) test and resisted straight-leg lift will cause pain in the groin. Radiographs may reveal symmetric joint space narrowing.

Recommendations

For those patients presenting to the first contact physician with hip pain, those with incapacitating instability, deformity, or pain should be referred immediately to a musculoskeletal specialist. For the remainder, initial treatment for inflammatory arthritis involves NSAIDS and other anti-inflammatory medications, and a referral should be made for a rheumatologic work-up ("B" recommendation).

Clinical Outcomes

Symptomatic improvement is expected. Failure to respond should indicate the need for referral to a rheumatologist.

Alternative Approaches

Immediate referral to rheumatologist.

Avascular Necrosis

Definition of the Problem and Diagnosis

Avascular necrosis is caused by increased intra-osseous pressure in the femoral head leading to necrosis of a segment of bone. Pain can be severe and unrelenting, both with activity and at rest. Examination may not be positive initially, although there is generally pain with internal rotation of the hip. There may be a positive history for alcohol or steroid use. Magnetic resonance imaging (MRI) can be positive before the radiographs show the condition.

Recommendations

Non-weightbearing with crutches has given temporary pain relief ("B" recommendation). Immediate referral to a musculoskeletal specialist is warranted.

Clinical Outcomes

Early pain relief will likely ultimately be followed by the need for surgery in the future. Referral to a musculoskeletal specialist is warranted. Treatment with core decompression of the femoral head has been controversial ("C" recommendation). With femoral head collapse, there will be increased pain and secondary osteoarthritis, and prosthetic hip replacement is generally required.

Alternative Approaches

None indicated.

Trochanteric Bursitis

Definition of the Problem and Diagnosis

Trochanteric bursitis is an acute or chronic inflammation of the greater trochanteric bursa and can be associated with insertional tendonitis of the gluteus medius and/or minimus tendons. Lateral hip pain and tenderness are characteristic, with pain focused over the greater trochanter. This condition can be associated with tightness of the iliotibial band. Patients with trochanteric bursitis typically cannot sleep on the affected side.

Examination should reveal localized tenderness, and radiographs should not reveal significant hip pathology, although some degree of osteoarthritis may be seen occasionally.

Recommendations

For those patients presenting to the first contact physician with hip pain, those with incapacitating instability, deformity, or pain should be referred immediately to a musculoskeletal specialist. For the remainder, initial treatment can involve NSAIDS, heat, and physical therapy (including local modalities, such as heat, ultrasound, and iontophoresis, and stretching and strengthening) ("B" recommendation). Failure to respond may indicate need for local cortisone injection ("B" recommendation).

Clinical Outcomes

Resolution of symptoms should occur with one or a combination of the above treatments. Failure to respond may indicate other causes (underlying hip arthritis, radiculopathy, or gluteus medius tendinopathy). Failure to respond to initial treatment warrants a referral to a musculoskeletal specialist.

Alternative Approaches

Referral to a musculoskeletal specialist for consideration of iliotibial band (ITB) release and surgical removal of the bursa ("C" recommendation).

Meralgia Paresthetica

Definition of the Problem and Diagnosis

Meralgia paresthetica is a condition characterized by pain and often numbness or paresthesias along the distribution of the lateral femoral cutaneous nerve (lateral hip and proximal-lateral thigh). It is caused by pressure on the nerve as it crosses the area of the anterior superior iliac spine (ASIS) on the brim of the pelvis. It can be aggravated by tight belts or clothing, obesity, or prolonged sitting in a forward leaning position. It has been described in later stages of pregnancy. Electrodiagnosis with somatosensory evoked potentials may be possible. Examination should demonstrate local tenderness at the ASIS or pain reproduction with sustained local pressure over the ASIS.

Recommendations

For those patients presenting to the first contact physician with hip pain, those with incapacitating instability, deformity, or pain should be referred immediately to a musculoskeletal specialist. For the remainder, initial treatment involves elimination of the cause of external pressure ("B" recommendation), local injection of steroid or local anesthetic ("B" recommendation), or topical lidocaine patch for local symptom relief ("B" recommendation).

Clinical Outcomes

Symptomatic improvement is expected. Failure to respond should indicate the need for referral to a musculoskeletal specialist.

Alternative Approaches

Immediate referral to musculoskeletal specialist.

Definitions:

Type of Evidence

Type I. Meta-analysis of multiple, well-designed controlled studies; or high-power randomized, controlled clinical trial

Type II. Well-designed experimental study; or low-power randomized, controlled clinical trial

Type III. Well-designed, nonexperimental studies such as nonrandomized, controlled single-group, pre-post, cohort, time, or matched case-control series

Type IV. Well-designed, nonexperimental studies, such as comparative and correlational descriptive and case studies

Type V. Case reports and clinical examples

Strength of Recommendations

A. Type I evidence or consistent findings from multiple studies of types II, III, or IV
B. Types II, III, or IV evidence and findings are generally consistent
C. Types II, III, or IV evidence, but findings are inconsistent
D. Little or no systematic empirical evidence

CLINICAL ALGORITHM(S)

An algorithm is provided for the diagnosis and treatment of sub-acute (non-traumatic) hip pain in adults over 50 years.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is specifically stated and identified for each recommendation (see the "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Improved care of patients with sub-acute hip pain

POTENTIAL HARMS

Nonsteroidal anti-inflammatory drugs (NSAIDs) may produce side effects and are not tolerated in all individuals.

CONTRAINDICATIONS

CONTRAINDICATIONS

Nonsteroidal anti-inflammatory drugs (NSAIDs) are relatively contraindicated in patients with renal insufficiency or pregnancy. Administer cautiously in individuals with hypertension or gastrointestinal intolerance.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- This guideline should not be construed as including all proper methods of care or excluding methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific procedure or treatment

must be made by the treating physician after a full assessment of all circumstances presented by a patient, including the needs and resources of a particular locality or institution.
- This guideline does not address all possible conditions associated with sub-acute hip pain, only those that account for the majority of initial visits to a physician.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Academy of Orthopaedic Surgeons (AAOS). AAOS clinical guideline on sub-acute (non-traumatic) hip pain in adults (>50 years of age). Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2002. 13 p. [35 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 2002)

GUIDELINE DEVELOPER(S)

American Academy of Orthopaedic Surgeons - Medical Specialty Society
American Association of Neurological Surgeons - Medical Specialty Society
American College of Physical Medicine and Rehabilitation - Professional Association
American College of Rheumatology - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Orthopaedic Surgeons

GUIDELINE COMMITTEE

American Academy of Orthopaedic Surgeons (AAOS) Task Force on Clinical Algorithms
AAOS Committee on Clinical Policies

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Revision Panel: Brian F. Kavanagh, MD, Chair; Jay Lieberman, MD; Kevin Garvin, MD; James Harkess, MD

Original Panel: Robert Poss, MD, Chair; Charles R. Clark, MD; Richard Johnston, MD; John Callaghan, MD; Daniel Berry, MD; Cecil Rorabeck, MD; Matthew Liang, MD; Howard Fuchs, MD; Joseph Zuckerman, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the original release of this guideline.

This guideline updates a previous version: American Academy of Orthopaedic Surgeons. Clinical guideline on hip pain. Rosemont (IL): American Academy of Orthopaedic Surgeons; 1999. 5 p.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Orthopaedic Surgeons Web site.

Print copies: Available from the American Academy of Orthopaedic Surgeons, 6300 North River Road, Rosemont, IL 60018-4262. Telephone: (800) 626-6726 (800 346-AAOS); Fax: (847) 823-8125; Web site: www.aaos.org.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Subacute hip pain - adults > 50 yrs (non-traumatic). Rosemont (IL): American Academy of Orthopaedic Surgeons; 2002. 1 p.

Electronic copies: Available in Portable Document Format (PDF) from the American Academy of Orthopaedic Surgeons Web site.

Print copies: Available from the American Academy of Orthopaedic Surgeons, 6300 North River Road, Rosemont, IL 60018-4262. Telephone: (847) 823-7186; (800) 346-AAOS. Fax: (847) 823-8125. Web site: www.aaos.org.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 15, 2000. The information was verified by the guideline developer on July 11, 2000. This NGC summary was updated by ECRI on August 10, 2004. The information was verified by the guideline developer on September 1, 2004.

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